Agenda for PMCD Meeting - 27 November 1974

1. Data Base Mgmt Branch/A&AD (grade levels) (TAB A)

2. Analysis Branch (A&AD vs. PS & grade levels) (TAB B)

25X1A
25X1A

3. Planning Staff (Transfer of ███ position to
                  Analysis Branch; transfer of ███ position
                  to Analysis Branch) (TAB C)

4. CSAD (Consolidation into 1 Br. on EC resulting in downgrade
        of 1 GS-14 position to GS-13 vs. present 2 Branches)
        (TAB D); downgrading of 1 GS-14 to GS-13 in Prop. Sys
        Br. (TAB E)

25X1A

5. AD/Liaison ███ position upgraded to GS-15 now instead
              of waiting for Supergrade Survey Results -
              like Monetary is now with Chief as GS-15 and Deputy
              as GS-15)

6. Consolidation of EO and Special Assistant

25X1A

7. Inc. allocation of Admin Officer Position ██████████
        at GS-14 levels (to be downgraded to GS-13 when
        present incumbent leaves)

2. Downgrading of Data Base Management Positions, i.e.:
   GS-14 to GS-13; GS-13 to GS-12; GS-11 to GS-09 and
   GS-09 to GS-07

    1. GS-14 and 13: We also reclama the reduction of
the grades associated with the Data Base Management Branch.
We strongly feel that we must develop a fully professional
branch which will be responsible for the integrity of the
financial information data base. It should be noted that
as we develop new systems, use new techniques and new tech-
nology, we reverse the certain trends from technically
oriented computer personnel to user oriented specialists
responsible for certain facets of data base management.
Attached is a job description of a typical data base admin-
istrator in an industrial type operation but it is not
too different from how we visualize the job requirements
of our data base administrators. It should be pointed
out that we recognize we are not claiming rights to the
entire data base management of the Agency or even the DDA.
However, we also feel the financial information is, in
our estimation, the core of an overall data base management
system. While we do not have fully integrated systems,
the financial/budget system does interface with other systems
that cross organizational lines such as personnel/payroll
and CONIF and ICS/GAS. The data base manager requires
a degree of coordination and control which does not occur
spontaneously among organizational units which represents
individual applications, systems, operations and user areas.
It is therefore inherent that this/these financial data base
managers have responsibilities which stem from the highest
level in order for him/them to effectively carry out his/their
responsibilities. It is therefore inherent that the positions
within this DBMB be placed high enough to assure that the
decisions regarding data definition, data acquisition,
and data file structure access can be authorittively made.
This type of an individual must therefore be management
oriented with an extensive data processing background.

    2. GS-11 and 09: The lower level jobs that we reclama
are responsible for the overall edits, validates and
controls of the financial system. These jobs will be
enhanced as we move to an on-line environment of data
entry, processing and output. In view of the above, we
feel that we are justified in requesting that the job
levels previously requested be reinstated.

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THE DATA ADMINISTRATOR

Job Description

Defines the content and structure of the data base.

Controls data access and search strategies to the data base.

Establishes data entry standards. Maintains dictionary of data elements; researches new data elements to prevent redundancy; coordinates definitions of data elements.

Maintains accurate and timely documentation of the system.

Exercises proper judgment regarding data base integrity, security, and modification rights.

Provides for the recovery of the data base in the event of failure.

Reviews the data base structure and its usage, makes changes in data base structures as the need arises.

Is responsible for maintaining the effective operation of the data base as modifications to the operating system and the data management system are made. Must coordinate with the suppliers of both systems in tracking down system problems and introducing new software packages.

Advises data base users on efficient techniques for extracting data.

Keeps track of available physical storage and initiates requests for new devices in sufficient time to meet the need.

Keeps apprised of current industry efforts in data base development.

Evaluates and/or defines possible software modifications or extensions to the data management system.

Education

The following background represents desirable, but not mandatory requirements.

B.S. in Math, Computer Sciences, Accounting or Business Administration.

M.S. in Computer Sciences, Statistical Analysis, or Business Administration.

Courses in: file management, data structures, sorting techniques, host languages (COBOL, FORTRAN, et al).

Experience

Minimum of 5 years experience as a systems designer and programmer; at least 2 years of this in large-scale integrated systems.
Experience in large data base design, utilizing DASD (disk).
Minimum of 2 years supervisory experience of 5 or more subordinates.
Application oriented background (manufacturing, marketing).
Administrative experience, and business experience in record keeping: Banking records, insurance records, etc.

General

Must be able to work well with people: The job will involve the integration of several partially conflicting data processing jobs into an optimum data base structure.

Will probably have a staff of two or more assistants.

Must be capable of thorough investigation of the implications of data base changes: mature judgment essential.

Should be capable of operating in a staff/line capacity - reporting to the highest full-time level of DP management.

Must be able to express views in writing - clearly and logically.

<u>Analysis Branch (PMCD recommended this Branch be transferred to PS):</u>

25X1A

<u>1/</u> OF proposed that C/AS GS-15 #0861 be downgraded to GS-14 and that that point be added to OC/AD/L.

<u>2/</u> PMCD recommended the GS-14 from PS be transferred to Analysis Branch - we don't buy because we need 14 level job in PS.

25X1A

<u>3/</u> PMCD transferred ▮▮▮▮ position to C&T as GS-13 - we want it back in Analysis Branch.

COMMENT: For us to get what we want, PMCD will have to be convinced to:

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A. Leave ▮▮▮▮ job in PS

25X1A

B. Transfer ▮▮▮▮ job - GS-13 from C&T back to Analysis Branch

C. Upgrade 11 to 12

1. Transfer of Analysis Branch from Accounts and Analysis
    Division to Planning Staff

    We desire to reclama the PMCD recommendation to transfer
the Analysis Branch to the Planning Staff. At the time that
we proposed the consolidation of Analysis and Accounts we
studied various other alternatives such as the one proposed
by PMCD. However, it was our decision, based on considerable
research, that the Analysis function properly belongs with
the Accounts function and also with the Data Base Management
function which incorporates the Data Base Management Branch
within the Accounts and Analysis Division. We feel that
these three functions; Accounts, Analysis and Data Base Management
are too closely related to separate in any way or manner.
We feel that the most common denominator in defining the
Agency's financial data base is financial accounting. We
therefore feel that the analysis design, implementation and
operation of the financial management information system
belongs under the same control. As an example, we are currently
in process developing three major systems; the General Accounting
System (GAS), the Contract Information System (CONIF) and
the Inventory Control System (ICS). Together these systems,
with our already operational budget system (FRS), will provide
the data base where the flow of financial data is the key
to the modular concentration of these integrated or inter-
faced systems. Almost all of our major functions in the
Office of Finance have an impact on this financial data and
most of these functions also have interrelationships with
one or more of the modular systems.

    We therefore conclude that the above mentioned cradle
to grave systems concept remain as a centralized effort under
the supervision and control of the Chief, Accounts and Analysis
Division. We do not believe that we are unique with this
type of recommendation. You may wish to refer to the September
issue of "Datamation" which dedicated the issue to data base
management. One of the key articles in this recent publi-
cation refers to the financial information data base in a
similar manner to our above recommendation.

THE DATA BASE IN A CRITICAL ON-LINE BUSINESS

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MOST PROFIT-ORIENTED COMPANIES dealing in commodity production and sales have a similar organization structure. Their structure is made up of departments which are responsible for performing tasks such as billing, accounts receivable, payroll, manufacturing, distribution, or sales. The tasks performed within each department, however, are not independent of other departmental tasks, but are integral parts of the operation of the company as a whole.

Serial computer applications have been historically developed to handle many of the manual jobs within each department. These serial systems were unable to efficiently interrelate the job functions. Large volumes of redundant data had to be passed from one application to another.

A solution to this problem is the establishment of a common data base to provide for the efficient sharing of data and the physical relationship of logically related data. A history of the development of such a data base at B. F. Goodrich will provide insight into some of the problems and advantages inherent in this approach.

One company's approach

The B. F. Goodrich Chemical Co., a division of The B. F. Goodrich Co., is a major manufacturer of plastics, rubber, and specialty chemicals. It has nationwide manufacturing facilities with around-the-world marketing and sales. The data base applications which have been developed for it are critical to the everyday business functions of the company.

Initial experience included a single data base implementation in 1967 which supported an on-line order entry/finished goods inventory system. This system offered some of the advantages of a data base including elimination of redundant data, on-line data base updating and video inquiry. The technology of disc processing, essential to a data base, at that time had shortcomings compared to tape serial processing. Disc processing was then too slow to support passage of large volumes of data for sorting and printing and too costly for storage of large volumes of data. Where on-line interactive data processing during the day was

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not required, serial processing was still a better approach.

By the early seventies, disc technology had made significant advances. Direct access retrieval was considerably faster on the new devices and the cost per unit volume of disc storage had been greatly reduced. Both hardware and software were available to support a large integrated company data base system.

Following completion and acceptance of the April, 1971 report of the CODASYL Data Base Task Group (DBTG), Goodrich implemented a subset of the DBTG specifications for operation on an IBM 370/155. This implementation, called Integrated Database Management System (IDMS) has been in production operation since January, 1972, and was originally intended for use within Goodrich.[1]

Building a piece at a time

The implementation of an integrated data base to support major company functions such as distribution, billing, accounting, sales, etc., is an intriguing challenge to most companies. How-

ever, computer systems are not born overnight and such an effort might be a three-to-five year project and require a sizable investment in system and programming effort. Before the possibility of developing this single data base is discarded because of this investment, however, one point should be made—a single data base does not necessitate a single systems development. Just as serial systems, data base systems can be developed in a modular form, each adding a new piece to the total picture. Some of these systems may be new, while others may be stepwise conversions of existing systems.

In defining the company data base, the most common denominator is financial accounting. We can define the major company functions which have an impact on the financial data. These functions may also have interrelationships with other functions. A diagram of these interrelationships looks like an interdepartmental data flowchart. Fig. 1 represents the major elements of this picture.

With this general analysis of the ma-

jor company functions and their interrelationships, we can map out a plan for systems development. As stated earlier, the complete data base system need not be developed at one time. The initial application should consider a company's data base experience as well as application needs. For instance, a customer or vendor master or a sales history might be considered for initial implementation onto which new systems can be built.

Though the use of a data base offers many advantages for some systems, it should not be blindly considered for every application. Infrequent use, such as quarterly or yearly budget and business planning systems, or the security required for payroll or other sensitive applications may make serial master file processing more desirable.

After considering the feasibility of developing a system using a data base, the mode of processing, on-line versus batch, must be decided. In making this decision, the first question to consider is "how critical is the timely processing of this data?" The timely processing of an order may be considered critical
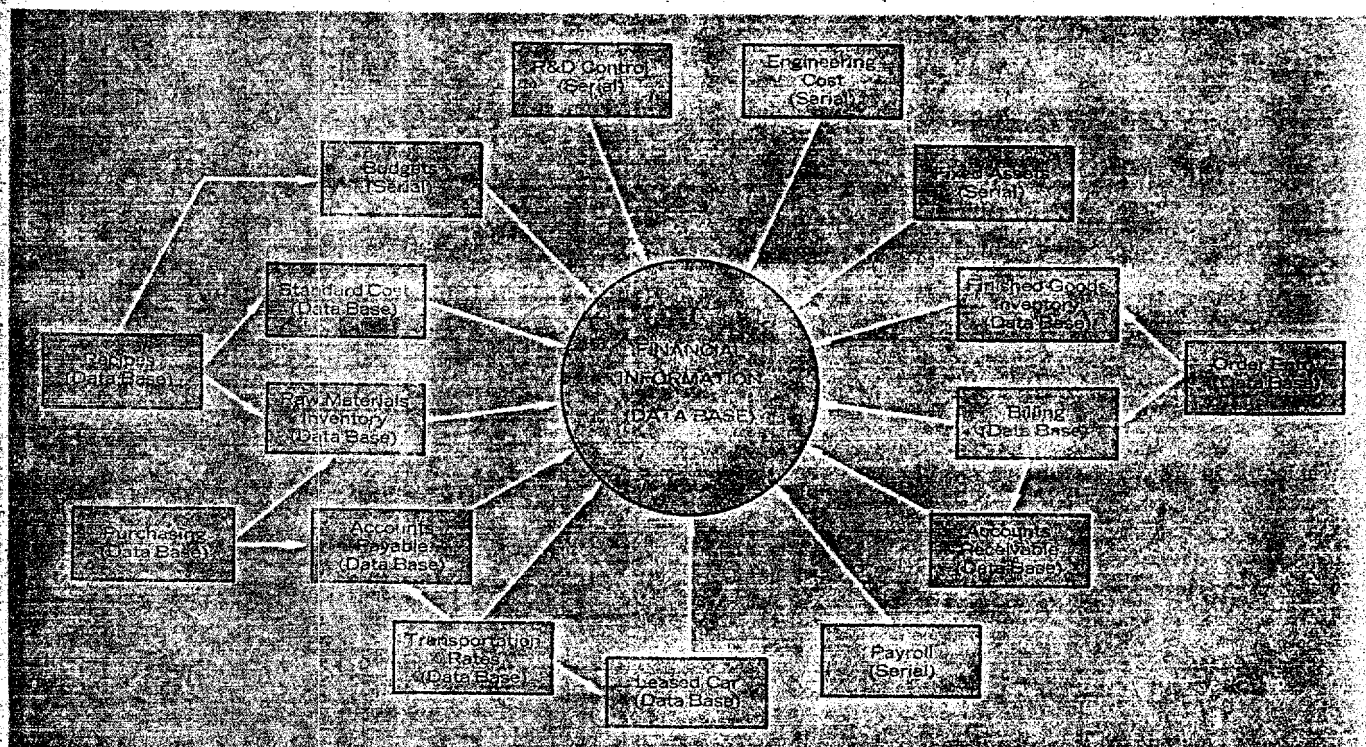

Fig. 1. The most common denominator in defining a company data base is financial accounting. The illustrated relationship of pieces of financial data is a good approximation of an interdepartmental data flowchart.